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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,866	01/10/2002	Randy Wickman	7385-84786	9819

7590

04/09/2003

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EXAMINER

VALENCIA, DANIEL E

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/044,866

Applicant(s)

WICKMAN, RANDY

Examiner

Daniel E Valencia

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: Brian Healy

## **DETAILED ACTION**

### ***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It states incorrectly that the person making the oath or declaration believes the named inventors to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought. The statement recites "original joint inventor"; however, there is only one inventor listed on the application.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Sauter.

Refer to the appropriate drawings or parts of the specification. Sauter discloses a vertical cavity surface emitting laser array packaging with all the limitations of the aforementioned claims. Regarding claims 1 and 9, Sauter discloses an apparatus for transmitting an optical communication signal (fig. 2, 4, and 6), such apparatus comprising: an optically transparent substrate (fig 6); an optical array (30), having a plurality of ports, disposed on a surface of the optically transparent substrate, such that

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a plurality of transmission paths of the optical array pass directly through the substrate; and a plurality of optical gratings (col. 4, lines 50-bottom) disposed on a surface of the substrate, such that the transmission paths of the optical array pass substantially through the plurality of optical gratings. Sauter further discloses that the gratings comprise mechanical etchings (lines 61-63), as mentioned in claims 2 and 10. With reference to claims 4 and 12, Sauter's disclosure shows that the apparatus further comprises at least one locus of etching (fig 6 and ref 112) in the disposed in the substrate for the plurality of optical ports. Sauter further discloses that an optical transparent underfill is interposed between the substrate and optical array, such that the plurality of transmission paths of the plurality of optical ports of the optical array pass directly through the optically transparent underfill also comprising a means for receiving the plurality of optical signals transmitted through the underfill, substrate and optical gratings, from the plurality of optical ports of the optical arrays (col. 3, lines 53-60), as described in instant claims 5-8 and 13-14. Although Sauter does not explicitly state that the etching can be a laser etching (claims 3 and 11), this limitations does not result in a structure that is readily discernible from the device disclosed in the by the prior art (Sauter) and the structure being claimed is therefore completely met by the reference. Applicant is claiming structure, and the USPTO bears a lesser burden when method-related limitations result in structure that cannot be readily discerned from structure not having such method-related limitations. (See MPEP 2113.)

Claims 1-5 and 9-14 rejected under 35 U.S.C. 102(b) as being anticipated by Tanguay U.S. Patent No. 5,568,574. Refer to the appropriate drawings or parts of the specification. Tanguay discloses a modulator-based photonic chip-to-chip interconnections for dense three dimensional multi-chip module integration with all the limitations of the abovementioned claims. Regarding claims 1 and 9, Tanguay discloses an apparatus for transmitting an optical communication signal (fig. 9 and 10), such apparatus comprising: an optically transparent substrate (32); an optical array (34), having a plurality of ports, disposed on a surface of the optically transparent substrate, such a plurality of transmission paths of the optical array pass directly through the substrate; and a plurality of optical gratings (254) disposed on a surface of the substrate, such that the transmission paths of the optical array pass substantially through the plurality of optical gratings. Tanguay further discloses that the gratings comprise mechanical or laser etchings (col. 11, lines 45-55), as mentioned in claims 2, 3, 10, and 11. With reference to claims 4 and 12, Sauter's disclosure shows that the apparatus further comprises at least one locus of etching (fig 9)) in the disposed in the substrate for the plurality of optical ports. Sauter further discloses that an optical transparent underfill (10) is interposed between the substrate and optical array, such that the plurality of transmission paths of the plurality of optical ports of the optical array pass directly through the optically transparent underfill also comprising a means for receiving (76 and 81) the plurality of optical signals transmitted through the underfill, substrate and optical gratings, from the plurality of optical ports of the optical arrays, as described in instant claims 5 and 13-14.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Degerkin U.S. Patent Application Publication No. 2002/0039463 discloses an optical displacement sensor, especially relevant to claims 1-5 and 9-14.

Feldblum U.S. Patent No. 5,412,506 discloses a free space optical interconnection arrangement that teaches a subject matter especially relevant to claims 1-14.

Gallo U.S. Patent No. 6,434,294 discloses a photonic local oscillator signal generator, that teaches limitations especially relevant to claims 1-4 and 9-12.

Trezza U.S. Patent Application Publication No. 2003/0002803 discloses a multipiece fiber optic component and manufacturing technique with gratings disposed on a transparent substrate for use as part of a connector including optical ports and optical fibers.

Yeh U.S. Patent Application Publication No. 2003/0031435 discloses an optoelectronic IC module, wherein a plurality of optical ports transmit optical signals through a transparent substrate with gratings to a plurality of fibers.

Lebby U.S. Patent No. 5,428,704 discloses an optoelectronic interface, wherein a plurality of optical ports transmit signals to fibers through gratings formed on a substrate.

Kravitz U.S. Patent No. 5,790,730 discloses a package for integrated optic circuit, wherein optical signals are transmitted through gratings on a substrate to a plurality of optical ports.

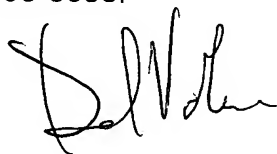
Okuda U.S. Patent No. 6,267,515 discloses an optical coupling module.

Hosokawa U.S. Patent No. 5,513,289 discloses an optical integrated lens/grating coupling device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel E Valencia whose telephone number is (703)-305-4399. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703)-308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-7724 for regular communications and (703)-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.



dv  
March 31, 2003



Brian Healy  
Primary Examiner